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United States Patent [19]**Williams et al.**[11] **Patent Number:** **5,768,096**[45] **Date of Patent:** **Jun. 16, 1998**

[54] **PORTABLE COMPUTER WITH MOVABLE
DISPLAY PANELS FORMING A
CONCATENATED DISPLAY SCREEN IN
RESPONSE TO OPENING THE COMPUTER**

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[52] **U.S. Cl.** **361/681**

[58] **Field of Search** **364/708.1; 361/681, 361/682**

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,307,175 2/1967 Shill .
3,987,299 10/1976 Mulder .
4,139,261 2/1979 Hilsum .
4,154,501 5/1979 Fischer .
4,173,391 11/1979 Schure et al. .

4,650,280 3/1987 Sedlmayr .
4,904,049 2/1990 Hegg .
4,911,528 3/1990 Polaert .
5,009,475 4/1991 Knudson .
5,128,662 7/1992 Failla 361/681 X
5,438,484 8/1995 Kanda et al. .
5,455,882 10/1995 Veligdan .
5,465,315 11/1995 Sakai et al. .
5,629,833 5/1997 Ido et al. 361/681

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[57] **ABSTRACT**

A composite display is provided having display panels which move into and out of a viewing position. While in the viewing position the display panels form a concatenated display screen. The display panels are stored within a display housing with respective viewing areas being at least partially overlapped to reduce storage space. The display panels automatically move out of the storage position into the viewing position in a notebook computer configuration when opening the computer. Similarly, the display panels automatically move into the storage position when closing the computer. The display unit includes a post. A system unit includes a cam. The cam defines a track within which the post moves. While the display unit rotates from the closed position to the open position the post moves along the track causing a display to move into its viewing position.

13 Claims, 4 Drawing Sheets

